

Nailkalm (Arthrospira Maxima) for the treatment of dermatophyte nail infections



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INTRODUCTION

Arthrospira Maxima is photosynthetic, filamentous, spiral-shaped, multicellular cyanobacterium that has the unique property of secreting a Fungicidal bioactive.

In vitro studies show a wide range of activation against fungal pathogens which includes:

- Trichophyton mentagrophytes
- Trichophyton rubrum

Under the Antibiotic AMYCOT it is presented as a topical lotion (nailKALM) in 12, 8 or 5% concentrations.

Dermatophytes are difficult to eliminate due to their usual dependency on the cornified layer of the epidermis.

The focus of most natural therapies to date has been melaleuca combinations (Fugiastatic), however AMYCOT provides an interesting alternative.

Electron microscopy shows lysis of the fungal cell wall on exposure to Arthrospira maxima cell powder, the exact mechanism remains uncertain but definitive loss of hyphae with the formation of protoplasts can be seen at 24 hours and by 5 days only dried cytoplasmic material remains in in-vitro studies.

Following the promising results from laboratory studies a small investigative trial was proposed to assess the extent of a clinical response.

METHOD

10 Patients with a clinical diagnosis of onychomycosis infection supported by microscopy and or culture were selected over the course of a 11 month period between November 2009 and December 2010 to trial Arthrospira Maxima (calmogen Nailkalm)

Patients were given instruction on how to appropriately apply the lotion to the affected area and asked to apply nailKalm twice daily for three months.

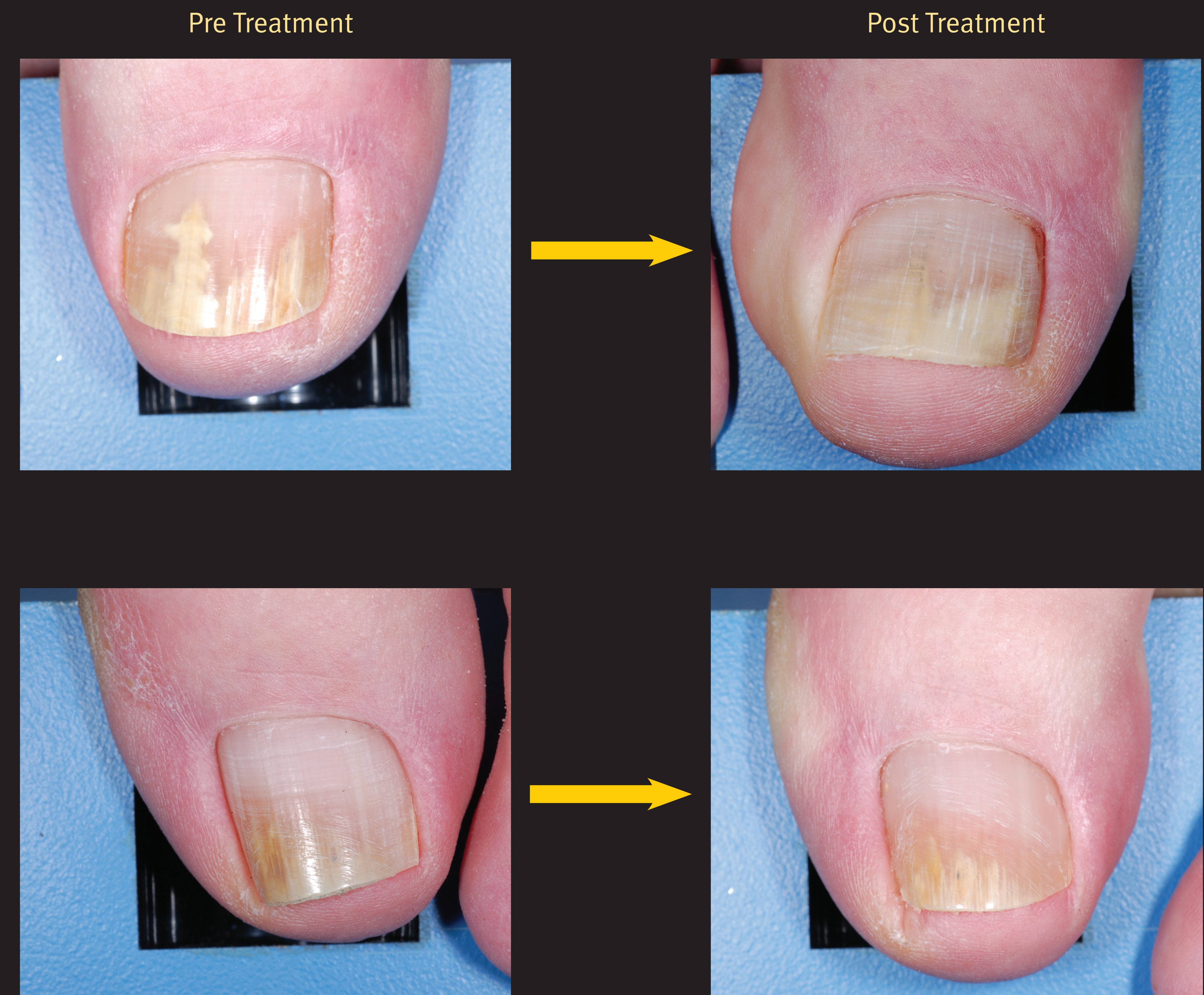
INCLUSION CRITERIA

Clinical diagnosis of a dermatophyte affecting at least one digit and microscopy showing hyphae, +/- culture.

Patients were reviewed in three month periods after an application regime of twice daily dosing.

RESULTS

Patient/sex Age range (61-88)	% of Initial clinical involvement	% Clearance at 3 months	Further Use required	% cleared at 6 month follow up
1M	30	100	N	
2F	10	100	N	
3F	13	100	N	
4M	10	100	N	
5M	7	100	N	
6M	10	100	N	
7M	50	70	Y	100
8M	20	0	Y	Declined F/u
9F	20	100	N	
10F	50	5	Y	Declined F/u



IMPRESSION and DISCUSSION

Arthrospira Maxima has a definite clinical benefit in the treatment of Dermatophyte onychomycosis infections. It is this authors opinion that Calmogen nailkalm or its active constituent Arthrospira Maxima deserves further investigation as a treatment option for nail dermatophytes, with assessment as to the efficacy against genus specific infections.